February 24, 1995

Dear Friends:

Does anyone have information on "CDM"? During my inventory I found a Navy "CDM 26003A" key. Per the list in Keyletter #5, page 33, this is the D.P. Mossman company. Information on this firm would be appreciated.

WEB PAGES: I recently visited the Antique Radio Museum in Bellingham, Washington. It is an impressive display, though there are few keys. They have a web page at "http://www.pacificrim.net:801~radio/collection3.html".

Other telegraph WEB pages are the "Telegraph Lore" page presented by Greg Raven. There is a wealth of information available there. The URL is "http://www.cris.com/~gsraven". Neal McEwen's homepage at URL "http://fohnix.metronet.com/~nmcewen/techno_weenies.html" has key information, a list of trade keys, a list of bug makers, and key collecting references.

The register of the Western Union telegraph collection is located at "http://www.si.edu/organiza/museums/nmah/homepage/lemel/archives/wu.htm". They have a most impressive listing of Western Union history.

BLUE POINT KEY. I have a straight key mounted on a plastic base that I am attempting to identify. It has the words "Blue Point" stenciled on the base, and "XX20" molded into the bottom of the base. It is of the British straight arm design and has a navy style knob. Does anyone have any ideas?

HI-MOUND KEYS. I have long thought that Hi-Mound manufactured the ubiquitous "coffin" bug, and I found proof during my recent inventory. I have a boxed Lafayette semiautomatic bug, model 99-25520. On the rubber base of the bug is the legend "Hi-Mound model BK-100, Japan".

WHITEROCK PRODUCTS COMPANY: I saw an ad for a "Pocket Mini-Key" and Pocket "Mini Paddle" made by Whiterock Products Company in the October, 1995 issue of Ham Radio Marketplace. Since each item was only $9.99 I ordered up a pair. They are crude, but serviceable. Both are mounted on 2" X 2" red plastic boxes and use thin plastic strips for operating arms. There are no adjustments on either, and the spring tension is provided by the flex in the plastic. The MK-22 Mini Key uses a push rod to trip a micro switch, and the MK-44 Mini Paddle has a metal post between the paddles for a common ground. Small machine screws on the paddles contact make the circuit. Knobs are adhesive backed furniture bumpers. They can be ordered from Whiterock at 309 S. Brookshire Ave., Ventura CA 93003.

Hills Vari-Speed: I ran a copy of the QST January, 1954 ad for the "Hills Vari-Speed" in Keyletter #6. Please note that this is the same J.A. Hills W8FYO that made the FYO paddles.

Joe Jacob's has moved. His new address is:

Joe Jacobs
5 Yorktown Place
Fort Salonga, NY 11768

E-MAIL ADDRESSES:

Aguirre, Jim	WB7DHC	wb7dhc@mail.nwlink.com
Cutter, Bob	KI0G	bcutter@teal.csn.net
Holley, Dave	AA5MO	keyman@innet.com
Kendra, John	N4LJS	johnk@qnet.com
Malvasi, Pete	WB2BYQ	pmalvasi@aol.com
Perera, Tom	K2DCY	pererat@alpha.montclair.edu
Rehak, John	N6HI	jrehak@primenet.com
Trump, ED	AL7N	ltrump@alascom.com

Please note that this is a new e-mail address for Jim Aguirre. John Rehak's old address [763267-444@compuserve.com] is no longer in service. The e-mail address previously listed for Tony Smith, G4FAI, is no longer good - the local provider has gone out of business. Lets hope that Tony makes it back on e-mail in the near future.

PINSTRIPING: I ordered a pin-striping kit from "The Artists Club", telephone (800)845-6507. The kit consists of two bottles and an applicator [item number 70105] with various size roller wheels. With a little practice you can do an excellent job of pin-striping. The applicator has an adjustable guide that simplifies things greatly. I used metallic gold paint [item 17046], and it is a good match to the Vibroplex original.

PAUL BOCK: *Here is how I repaired a Vibroplex thumbpiece:*

> *This technique is useful in repairing Vibroplex thumbpieces of the dull black bakelite variety as found on the older bugs. It can also be used to "fill" small chips or gouges in the older knobs. Newer knobs and thumbpieces are black plastic and are best repaired using a plastic solvent-based cement.*
>
> *METHOD: The method of repair is to use a mixture of clear, two-part (resin & hardener) epoxy which has been darkened with a small amount of lampblack or ebony dust. Ebony dust is available from firms which sell luthier supplies to stringed instrument builders (guitar, banjo, mandolin, etc.) and inlayers.*
>
> *MATERIALS REQUIRED: The materials required are epoxy, lampblack or ebony dust, waxed paper, two small wooden boards, and a bench vise.*
>
> *PROCEDURE:*
>
> *1) The two pieces of wood are used to clamp the thumbpiece in the bench vise by placing the epoxied thumbpiece between them. Before proceeding, use rubber cement or tape to attach a piece of waxed paper to the surface of each piece of wood where it will contact the thumbpiece; this will keep it from sticking to the wood as the epoxy hardens.*
> *2) Mix some two-part clear epoxy with a small amount of lampblack or ebony dust. This ensures that any exposed epoxy is dull black after sanding. Use only a *VERY SMALL* amount, just enough to darken the epoxy. If you don't have lampblack or ebony dust you can just use epoxy; however, use extra care so that you have a minimum of exposed epoxy after drying (it*

will look shinier than the dull black thumbpiece).
3) Spread the epoxy mixture into the crack in the thumbpiece, carefully wiping off as much excess as you can.
4) Clamp the thumbpiece between the two pieces of wood in a vise, waxed paper sides against the thumbpiece.
5) When the epoxy dries, the only thing stuck to the thumbpiece will be the waxed paper, which can be carefully removed.
*6) Under a magnifying glass, use super-fine sandpaper and/or an X-Acto knife to *CAREFULLY* sand/scrape away any excess epoxy, and to rough up the edges so it looks natural.*

*If carefully done, a repair of this type will be almost invisible *UNLESS* some small chips have broken off around the edges of the crack. This is where the epoxy plus ebony dust mixture will pay off, because it will fill in the chipped areas and, when carefully roughed up, will be virtually invisible (this is how pearl inlay is set into not-quite-perfect holes in an instrument fingerboard).*

We have finally located a correspondent in Australia! Stephen Smith. VK2SPS, reports that he has a collection of 200+ keys and writes a monthly column called "Pounding Brass" for the Wireless Institute of Australia's monthly magazine Amateur Radio.

GOLD BUGS. The following is my compilation of Gold Bug serial numbers.

SERIAL	**TYPE**	**COMMENT**	**OWNER**
54	A		JOHN ELWOOD
72	A		LYNN BURLINGAME SIGHTING
116	A		RUSS KLEINMAN
215	B		MURRAY WILLER
251	B		LYNN BURLINGAME
252	B		TOM PERERA
473	B		TOM PERERA
484	B		LARRY NUTTING
508	B		LYNN BURLINGAME
612	B		BILL HOLLY
715	C	NICKEL PLATED	NEAL MCEWEN
797	C		TOM PERERA
880	C		BILL HOLLY
918	C	FLAT SIDED BASE	TOM FRENCH
952	C		UNK [FROM N7CFO PHOTO COLLECTION]
958	C		LYNN BURLINGAME
968	C		NEAL MCEWEN
1025	C		LARRY NUTTING
1042	C		TOM FRENCH
1054	C	3 PC GRAY BASE	DAVE PENNES
1060	C		JOHN ELWOOD
1105	C		L. MOREAU COLLECTION

I arbitrarily assigned the type. Type "A" has the round knob and the JHB logo stamped into the base. Type "B" has the round knob and a pinned label.

Type "C" has the adjustable knob, pinned label, and three piece base. The three piece base is easy to miss. It looks like the others, but has a thin sheet of metal screwed to the bottom of the cast base. I didn't discover the three piece base until some of this information had been gathered, so I don't know for sure that all of the type "C" have it. If you have a type "C" without this base let me know. For now I am going to ignore S/N 918 with the flat sided base rather than the ogee curve, the nickel plated one, and the one with the gray base. Tom reports that the flat sided model looks like a factory job, but with only one of them identified to date we will have to set it aside until we get better information.

We have several reports of Gold Bugs with finger knobs. Comparisons of photos show that each of these knobs is placed slightly differently, so I strongly suspect that they were added by the owners.

KEY PHOTOGRAPHY: After spending a lot of time trying to improve my key pictures I found an unexpected solution. I have been tinkering with lighting, and was having difficulty getting diffused light without shadows. I am now using what is probably the world's largest diffuser - the 12' X 18' translucent plastic canopy over my patio! I take pictures on cloudy days [you don't have to wait long in the Seattle area] and have found that the ambient light is nearly shadow-free. I set up a tripod in front of the patio table and shoot away.

***For trade:** J-51. Contact Henry Engstrom.*

***NEAL MCEWEN:** I thought you might be interested in how to instruct the guys on the shipping end in packing a bug. Since I started using this 'tip sheet', I have not had a bug beat up. These same principles would apply to any heavy telegraph instrument. Include a copy of this with your check; it is cheap insurance and almost everyone follows the instructions.*

PACKING A BUG FOR SHIPPING

The Post Office and UPS can really make a mess out of a bug. Bugs are heavy, so if dropped, they really take a blow, often times fatal! Extra care in packing will help insure your bug arrives safe and sound.

1) Remove the plastic or bakelite pieces where the fingers go. These are the first to go; one little bump and they are shattered. Put the pieces in a small plastic bag or envelope.

2) Remove the weights. They will vibrate loose, fall off the pendulum and knock a chip out of the base every time the truck bounces. Put the weights in the same plastic bag as the finger pieces or in a separate bag or envelope.

3) Run all the thumbscrews in so that the lever does not vibrate. Tie the pendulum to the damper with a rubber band or "twistie tie".

4) Wrap the entire bug in bubble sheet or foam sheet with several layers. THIS IS MOST IMPORTANT !!!!

5) Center the bug in a large box with tightly wadded newspaper or more *foam on all six sides. The packing should be tight enough so the bug cannot float around. Even if the bug is in its original case, it needs to be packed in the big box. The foam peanuts do not work well because the bug is so heavy that it will eventually float to one side and have no cushion from a blow.*

6) If the bug is in the original case, put cardboard shims tightly between the bottom of the bug and the case. This will prevent the bug from sliding around inside the case.

7) Mark the package FRAGILE on the top and several sides and insure for the value.

WHEN PACKING, TRY TO ENVISION WHAT WOULD HAPPEN IF THE BUG WERE DROPPED FROM FIVE OR SIX FEET !!

Wyn Davies and I recently traded several items. My package to him took over two months to arrive, and Wyn and I both died a thousand deaths before it got there! It arrived intact and all is well, but the worry that we both went through prompted me to get some advice from the Postal Service on international mailing.

First, carefully and thoroughly pack each item per Neal's suggestions. Second, affix the "to" and "from" addresses to the item on the inside of the package. I wrap keys in bubble pack and tape them securely. Putting the address on the outside of the bubble pack is an insurance policy in case the package bursts open in shipment. I then mummify the box with fiber tape. This is important. If you put enough fiber tape around the box it will stay intact even through extremely rough treatment. The final thing is to put the "to" and "from" addresses in at least two places on the outside of the box, and tape over them with clear tape. This ensures that if the box gets wet that the ink won't run and make the addresses illegible. Use a pencil, ball point pen or grease pen, not a fiber tip pen. The fiber tip pens run if they get wet.

LARRY NUTTING: *I checked my Gold Bugs again. The #1025 has the 3-piece base, I had not noticed that before. The paddle has "PATENTED" stamped into it - do the other movable paddles have that marking? Both of mine also have "PATENTED" and "PATENT PENDING" stamped into the top of the base.*

DOUG SENEKER: *In Keyletter 15, you mentioned you mislaid the source of the contribution on the A.A. Transmitter listed in TELEGRAPHY SELF-TAUGHT (1902). I sent it in to you on October 20th. Back to the topic of cases for bugs, that has appeared in the last couple of keyletters. R.R. TELEGRAPHER, June, 1911, carried an ad for the Vibroplex Model X that offered a "handsome polished dark oak carrying case for $1.25 extra." Now THAT would be a find!*

STEPHEN SMITH: *In regards to Buzza Keys, they were a Sydney based firm which started in the mid 1920's. The company was around for some years then vanished. At this state I am still sourcing out information. The drawing on page 63 of Keyletter #6 states "The base looks like it was built to wedge into a specially shaped bracket." In reply to this, the* *base was standard, the company wanted to try something different so that the key could easily be identified among other Semi-Autos of that time. In any case, the costs involved to shape the base like that would have been quite high in regards to standard bases such as the Vibroplex models.*

ED TRUMP: *I thought that it might be of interest to pass on how I make key knobs for replacements or newly made keys. I use flat sheet material, such as bakelite, cut from old cabinets, phenolic from old electronic junk etc, from 1/16" to 1/8" thick. I cut the stuff into pieces about 1/2", 3/4", and 1-1/8" square. A scribe is used to mark the center of each piece diagonally from corner to corner. I make enough to stack as high as the desired height of the key knob, which usually requires about three of the 1/2" squares, two of the 3/4" squares, and at least two of the 1-1/8" squares. All pieces for a single knob except one of the 1-1/8" squares are drilled thru the center with a tap drill for 8 x 32 (or other desired size) threads, and each square is tapped with the proper thread.*

A piece of rod is threaded (8 x 32 is most common) and cut to a length of about 3/4". This is screwed into a short piece of 3/8" brass rod that has a threaded blind hole bored and tapped in the end, and serves as the piece by which the knob-to-be can be handled for turning to final shape. One of the 1/2" drilled pieces is screwed down on the threaded shank to seat against the end of the 3/8" rod. This serves to lock the threaded shank into place for the "laying up" operation to follow. The part protruding above the first piece should be exactly long enough to pass through the rest of the drilled pieces, but not the undrilled 1-1/8" top part.

Each of the flat square pieces should be roughened up on both sides with a piece of sand paper or a file to help the adhesive hold. A small amount of Super-Glue is applied around the threaded shank, and the next piece above is screwed down tight on top of the lower piece. It helps to lay out the several pieces in order of placement to keep them in order. Continue with the layup operation until all the drilled squares are set. It helps to make the corners "alternate" as the pieces are run down tight. This will help the shaping operation later. The last 1-1/8" top piece without the hole is centered by eye on the top of the stack, and the whole assembly is placed between the padded jaws of the bench vise and squeezed tight and left for a few minutes. The superglue bonds instantly but this helps to seat everything tightly together.

The glued assembly is then chucked in a drill press, and turned at a medium speed, while files and/or rasps are used to shape it as desired. After the shape is established, finer files and abrasive paper are used to smooth and polish the piece. Once completed, the knob is unscrewed from the 3/8" brass rod and the end of the threaded shank can be trimmed to the correct length.

This process can be also used to make circuit closer knobs. You just use squares a little smaller in size and stack them higher. With practice, you can duplicate any original knob.

I polish key knobs by screwing them into a threaded hole bored in the end of a short piece of 3/8" brass rod, then chuck it in the drill press and polish away with fine abrasive paper and finish up with a piece of *leather. This works for circuit closer knobs too. A fine cut file can be used to take casting mold parting ridges off before polishing the knob. The polishing medium can be a variety of things, but I find that usually after cleaning up any rough spots with a file, then 600 grit, then leather will put a nice satin finish on most knobs.*

Dave Pennes: *Hairpin springs as used on older keys and sounders can be fashioned from .039 piano wire available in hobby shops. It costs about $.20 for a 36" piece around here. Wrap it around a screwdriver shaft and pull it tight after fastening both ends in a bench vise. The longer end is about 3/4" long and the top side is about 5/8" long with a 1/4" or 3/8" eyelet. You have to individualize the dimensions.*

A source for amber lacquer in spray cans is "Jet Spray Furniture Finish" It comes in about 20 tints and is available from Woodworkers Supply, 1108 North Glenn Road, Casper, WY 82601. Phone (800)645-9292

The binding posts and contact posts on early Vibroplex bugs had fiber shoulder washers in the top or bottom openings of the hole, with a screw going through the middle, suspended in the center so as to not make contact with the base. I know of no source for the fiber shoulder washers, but nylon tubing is available in the plumbing section of building supply stores. It is the 1/4" O.D. size which is large enough to allow the 8-32 screw to pass through the middle. You can use fiber washers for the top and bottom insulators, and not have the screw contact the bug base from inside the hole. The tubing costs about $.20 per foot.

Occasionally you have to replace a missing part from an old bug with a newly made one, such as a circuit closing switch. The parts generally are made from brass, and then nickel plated as many old bugs were. The problem arises in the plating, which is nice and shiny, and looks out of place on an old dull nickel plated bug. What to do? Soak the new piece in touch-up gun blue for about a minute then clean it off with very fine steel wool, and you will end up with a nice dull steely dark nickel color that roughly matches the rest of the bug.

McElroy paddles are frequently missing or broken, especially the thumb "flat" piece. A pretty good semblance of this part can be obtained by taking a triangular Vibroplex paddle (available from the factory in the recent past for about $2), and countersinking the two holes with a counterbore, available from any hardware store. The flathead screws that go in the hole, if missing, are generic 8-32 thread, with the standard 82 degree angle to the shaft, the same as common counterbores. One of the holes also has to be drilled out larger for an 8-32 screw. Use a #29 drill or slightly larger.

Jim Aguirre: *I'm trying to fill in some blanks in my information database regarding Vibroplexes with red or green bases (factory finish only). I know the whereabouts of one green and two red Lightning Bugs, but don't have sufficient info to start drawing some conclusions about how common they were, etc. Does anyone out there have Vibroplexes with red or green bases? If so, would you send me the following info? Model, Serial Number, Label Address, current owner and any comments re: when and where originally purchased. Please limit the input to those bugs actually in* *hand or seen personally; no "friend of a brother-in-law's cousin thought he saw" stuff. If I can get enough information from actual sightings, can fill in some of the blanks and will share the info in compiled form.*

Does anybody have any Brown Bros. parts? I have a CT-A paddle/straight key combo missing the lever arm for the straight key and am looking for a replacement...possibly from an otherwise damaged unit or whatever. Replies can go to imagenw@scn.org or POB 527, Preston, WA 98050.

GREG RAVEN: *On page 119 of "The Telegraph" by Lewis Coe, there is a message sent by Thomas Edison in Morse. The message was recorded using some kind of transcription disk (1920 technology). The text implies the recording still exists and copies are in the hands of a few collectors. Does anyone have any details on this or does a museum have the original recording? I would like to get my hands on a copy of this recording and transfer it to my tape-modem set up. I've got to see if I can copy Edison's sending!*

Tom Perera: *I just bought 5 of those nifty keys you show on Keyletter #7 page 71. In reading through Larry Nutting's book, I cannot believe that it is a J-3 which Larry Lists as being a "folding lever" key. Also, the base is not wood but bakelite and measures 4-1/16 long by 1-3/4 wide not the 5-5/32 X 3-3/8 listed as the measurements of the J-3.*

I believe that the key is a J-6 because its base has the same measurements given for the J-6 base. The side of the lever is stamped L.S. Brach Supply Company - Newark. Supply Company - Newark, N.J. USA. The botto of the base has a white painted stamp that is a White open square with an upward pointing closed arrow that looks a bit like a letter A. Under this arrow is "A - 12". Could that be an additional clue? Any ideas?

Re Pete Malvasi and the possibility that there were steel-lever keys out there long before Bunnell's 1881 patent. I think that this is the case. I recently purchased a key marked "WESTERN ELECTRIC CO." It has a large oval brass base with a large circular hole in the very center. The unusual thing about this steel-lever key is that there is a brass rod running under the steel lever from one of the upright pivot posts across to the other. This rod may be designed to prevent the posts from rotating. I would swear that this key was made well before 1881 based on the knurling and general appearance. I think that many manufacturers were experimenting with steel-lever keys well before 1881 and perhaps Bunnell was clever enough to decide to patent the idea.

I recently purchased a typical Bunnell Box-Relay KOB. I later noticed that the shorting lever on the JHB steel-lever key with oval brass base is stamped: PATENT APPLIED FOR. Perhaps this is his earliest steel lever design. The lever is unusual in that the area just under the knob is MUCH narrower than usual. Most steel levers that I have seen widen out considerably under the knob. This lever goes from 7/32 to 9/32.

I agree with Russ Kleinman that displaying keys is a challenge. I have a different problem resulting from my wish to take all 400 - 500 keys with me to hamfests for display. It is exciting for me to see a person begin to realize that the history of telegraph reaches back before the civil war.

It is fun to hear old timers complain that I'm not sending the "real" code. Best of all, it brings out those stories about the leads that bring forth exotic camelbacks and lineman's test sets.

The problem is with transporting, displaying, and securing all these keys. My Chevy station wagon rides on its rear axle when I am fully loaded. I have found that 18" X 39" plastic "under the bed" storage boxes work well for protecting the keys in transit and they slide directly into the bookcase shelves that line my display room at home. I cover each box with a glass window that is heavy enough to keep people from unscrewing knobs and/or liberating keys. A few times when I have put a key on top of the glass windows, it has walked away. Happily this has only happened a few times with common keys and I consider that the fun I get out of displaying all the keys and talking to all the people far outweighs the problems.

I have found that an Omnigraph makes the best code generator for the sounder or spark transmitter in my display. It runs for 10 to 15 minutes on a single winding if you are sending code at 10 wpm or less. The whirling governor is fun for people to watch and generates lots of questions. I use a "Gel-Cell" as a power source and it provides several days of operation on a charge. The Gel-Cell is used as the "LOCAL BATTERY" in a loop that keys either a sounder, or the spark transmitter. I make a series circuit consisting of the battery, the omnigraph (which keys the circuit), and the sounder or spark transmitter and reader (which are keyed by the omnigraph. A series resistor in the circuit serves to limit the current since sounders and spark transmitters were designed for 6V or less. I use a resistance substitution box to determine the maximum value of resistance that will still allow reliable operation of the sounder or spark transmitter. Sometimes, I also hook up an old Kantronics Mini-Reader which displays each letter on a lighted display as it is sent by the Omnigraph. This makes for a versatile display that works well even for those who can't read the code by ear.

Re: your comments about springs. Most hardware stores have assortments of springs hidden away for you to poke through. I have been able to "neck-down" a spring to make it into a tapered spring by taking a small pair of pliers with jaws protected by a piece of electrical tape and gradually working one end of the spring down in diameter. I start at the end and squeeze gently until the diameter decreases. Then I reposition the pliers and squeeze again. This process goes on until I have achieved the desired taper. It takes a while, but I have been able to make just about any shape spring that I want. The most difficult is the spring on the Clapp-Eastham Boston key which has a very long taper. It took me over an hour to make a replica. Most springs should only take a few minutes.

Well, that is it for #16. Keep those cards and letters coming. I recently came into a large supply of Bencher-like parts. They are unusual in that most of them are aluminum and the paddles are red plastic. The contact post knobs are square, and there are also numerous other subtle differences. I have several pounds of this stuff, and it represents a lot of machinist's time. Does anyone have any ideas?

Lynn

73 de Lynn, N7CFO

FEB 1996

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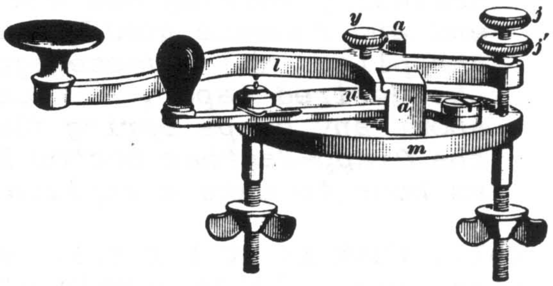

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